

ABSTRACT

Currently the measurement of body temperature is a reference for measuring human health conditions. This is due to the outbreak of the COVID-19 pandemic which is currently a barrier in humans carrying out daily activities. When you want to enter a building or room, your body temperature will be taken by the guard on duty.

In the design of this research, the author will design a monitoring tool and measurement of human body temperature to open the automatic door. The devices used are NodeMCU microcontroller, ultrasonic sensor HC-SR04, infrared temperature sensor GY-906 type MLX90614, LCD I2c size 16x2, relay module, and door lock solenoid. The nodemcu microcontroller will process body temperature data from the GY-906 temperature sensor which is already connected to a wi-fi connection so that it can facilitate data transmission from the microcontroller to Blynk.

This study aims to assist the government system in implementing health protocols in the midst of the COVID-19 pandemic. It is hoped that this tool using the internet of things concept is able to assist in carrying out temperature monitoring in real time.

The results of testing the accuracy of the GY-906 temperature sensor which were carried out by 3 kinds of tests contained an average value difference. At an object distance of 3 cm, the average difference is 3.15%, at an object distance of 5 cm, it is 5.1%, at an object distance of 7 cm, it is obtained by 7.71% when compared to thermometers that have been widely sold in the market. The results of the delay test get an average value of 260 ms from 20 times of testing and this value according to TIPHON as an assessment of the standardization of parameters the delay value is in a good category. In the throughput test, the average throughput value is 284 bytes/s.

Keywords: Monitoring, Body temperature, Blynk, Solenoid door lock, Internet of Things.